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DERWENT-ACC-NO: 1999-255295
DERWENT-WEEK: 199945

TITLE: Solder ball placement method with template for BGA packaging

INVENTOR: CAI, Y S; LAU, T H

PATENT-ASSIGNEE:

ASSIGNEE	CODE
ADVANCED SYSTEMS AUTOMATION LTD	ADSYN

PRIORITY-DATA:
1997SG-0003591 September 26, 1997

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
SG 67423 A1	September 21, 1999	N/A	000	H05K003/34
WO 9917593 A1	April 8, 1999	E	017	H05K003/34

DESIGNATED-STATES: CN JP MX AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-NO
SG 67423A1	September 26, 1997	1997SG-0003591	N/A
WO 9917593A1	July 6, 1998	1998WO-SG00054	N/A

INT-CL (IPC): H05K 3/34

ABSTRACTED-PUB-NO: WO 9917593A
BASIC-ABSTRACT:

NOVELTY - The placement method uses a template (29) that is aligned with connection pads on the substrate without using flux. One ball is dropped into each hole (27) in the template directly onto the pads in the absence of flux. The solder balls are then exposed to a laser, resulting in the rapid melting of the solder onto the substrate pad. The melted balls are then cooled rapidly and the subsequent reflow operation is preferably carried out in a nitrogen environment.

USE - Solder ball grid arrays for connections between IC terminals and PCB conductor tracks

ADVANTAGE - Can be used on high density connection pads, reduces occurrence of short-circuits caused by solder ball bridging

DESCRIPTION OF DRAWING(S) - Shows matrix laser head for reflow of solder balls.

cavity 27

solder ball 28

template 29

flux layer 32

housing 34

optical fibers 36

CHOSEN-DRAWING: Dwg.3/4

TITLE-TERMS: SOLDER BALL PLACE METHOD TEMPLATE PACKAGE

DERWENT-CLASS: U11 V04 X24

EPI-CODES: U11-D01A3A; U11-E01; V04-R04A5A; X24-A09;

SECONDARY-ACC-NO:
Non-CPI Secondary Accession Numbers: N1999-190070